

and adenocarcinomas of the colon or of the kidney.

5  
29. (Once Amended) Use of a peptide compound as claimed in claim 1 for increasing, in culture medium, the CTL population of tumors and/or inducing the secretion by said CTLs of cytotoxic factors such as, for example, IL-2, IFN  $\gamma$  and TNF.

30. (Once Amended) Use of a peptide compound as claimed in claim 1 for manufacturing a medicinal product intended for stimulating immune defenses, in particular to increase the CTL population of tumors and/or to induce the secretion by said CTLs of cytotoxic factors such as, for example, IL-2, IFN- $\gamma$  and TNF.

31. (Once Amended) A method for producing an antibody which recognizes a peptide compound as claimed in claim 1, comprising the steps consisting in:

- a) immunizing a mammal with said peptide compound,
- b) isolating a monoclonal antibody which binds to said peptide in an immunological assay.

---


#### REMARKS

Applicants respectfully request that the foregoing amendments be made prior to examination of the present application. The amendments are made to correct multiple dependencies and do not change the scope of the invention.

Respectfully submitted,

Date: December 28, 2001

By



FOLEY & LARDNER  
Customer Number: 22428



22428

PATENT TRADEMARK OFFICE

Telephone: (202) 672-5407

Facsimile: (202) 672-5399

Stephen B. Maebius  
Attorney for Applicants  
Registration No. 35,264

**MARKED UP VERSION OF AMENDED CLAIMS**

3. (Once Amended) A peptide compound as claimed in [either of claims 1 and 2] claim 1, characterized in that it comprises at least one element other than natural amino acids.

6. (Once Amended) A method for revealing artificial point modifications or mutations which are capable of increasing the immunogenicity of the peptide compounds as claimed in [one of claims 1 to 3 and 5] claim 1, characterized in that it comprises the following steps:

- a) Determining fragments which possess a sequence of approximately 9 to 10 amino acids comprising an anchoring motif for a given HLA molecule,
- b) introducing an additional point modification (for example a post-translational modification) or mutation at residues 4, 5, 6, 7 or 8,
- c) determining the immunogenicity of the peptide fragments obtained in step b), preferably by carrying out an Elispot assay.

9. (Once Amended) A DNA fragment encoding at least one peptide fragment of [one of claims 1 to 3, 5, 7 and 8] claim 1.

11. (Once Amended) A vector for expressing a peptide fragment, characterized in that said fragment comprises a sequence of at least 8 consecutive amino acids of the sequence SEQ ID No. 1, [as claimed in one of [lacuna] 1 to 3, 5, 7 and 8], containing a DNA fragment of claim 10 fused to a promoter which is effective in eukaryotic cells and/or in prokaryotic cells, in particular in human cells.

13. (Once Amended) A vector as claimed in [either of claims 11 and 12] claim 11, characterized in that it is a viral vector, a plasmid or a pseudovector.

14. (Once Amended) A dendritic cell loaded with peptide compounds as claimed in [one of claims 1 to 3, 5, 7 and 8] claim 1.

15. (Once Amended) A dendritic cell transformed with the expression vector as claimed in [one of claims 11 to 13] claim 1.

16. (Once Amended) A dendritic cell as claimed in [either of claims 14 and 15] claim 14, characterized in that it forms part of the macrophages.

17. (Once Amended) A pharmaceutical composition comprising a peptide compound or a mixture of peptide compounds as claimed in [one of claims 1 to 3, 5, 7 and 8] claim 1 and a pharmaceutically acceptable vehicle.

18. (Once Amended) A pharmaceutical composition comprising an expression vector as claimed in [one of claims 11 to 13] claim 11 and a pharmaceutically acceptable vehicle.

19. (Once Amended) A pharmaceutical composition comprising in particular a DNA fragment as claimed in [either of claims 9 and 10] claim 9 and a pharmaceutically acceptable vehicle.

20. (Once Amended) A pharmaceutical composition comprising the cells as claimed in [one of claims 14 to 16] claim 14 and a pharmaceutically acceptable vehicle.

21. (Once Amended) A pharmaceutical composition as claimed in [one of claims 17 to 20] claim 17, characterized in that it also comprises one or more immunological adjuvants, in particular agents which are cytotoxic for tumors.

22. (Once Amended) A pharmaceutical composition as claimed in [one of claims 17 to 21] claim 17, characterized in that it comprises a pharmaceutical vehicle which is compatible with IV, subcutaneous, oral or nasal administration.

23. (Once Amended) A pharmaceutical composition as claimed in [one of claims 17 to 22] claim 17, characterized in that it comprises a pharmaceutical vehicle selected from positively or negatively charged liposomes, nanoparticles or lipid emulsions.

24. (Once Amended) Use of a peptide compound as claimed in [one of claims 1 to

3, 5, 7 and 8] claim 1 for manufacturing a medicinal product.

25. (Once Amended) Use of a peptide compound as claimed in [one of claims 1 to 3, 5, 7 and 8] claim 1 for manufacturing a medicinal product intended for treating cancer.

26. (Once Amended) Use of a peptide compound as claimed in [one of claims 1 to 3, 5, 7 and 8] claim 1 for manufacturing a medicinal product intended for immunization ex vivo, which consists in particular in inducing tumor-specific CTLs in vitro, expanding them and reinjecting them, said induction possibly being carried out with the aid of loaded dendritic cells.

27. (Once Amended) Use of a peptide compound as claimed in [one of claims 1 to 3, 5, 7 and 8] claim 1 for manufacturing a medicinal product intended for immunization in vivo.

28. (Once Amended) Use of a peptide compound as claimed in [one of claims 1 to 3, 5, 7 and 8] claim 1 for manufacturing a medicinal product intended for the treatment of cancer, in particular solid tumors, especially carcinomas, melanomas, neuroblastomas, preferably hepatocarcinomas and adenocarcinomas of the colon or of the kidney.

29. (Once Amended) Use of a peptide compound as claimed in [one of claims 1 to 3, 5, 7 and 8] claim 1 for increasing, in culture medium, the CTL population of tumors and/or inducing the secretion by said CTLs of cytotoxic factors such as, for example, IL-2, IFN  $\gamma$  and TNF.

30. (Once Amended) Use of a peptide compound as claimed in [one of claims 1 to 3, 5, 7 and 8] claim 1 for manufacturing a medicinal product intended for stimulating immune defenses, in particular to increase the CTL population of tumors and/or to induce the secretion by said CTLs of cytotoxic factors such as, for example, IL-2, IFN- $\gamma$  and TNF.

31. (Once Amended) A method for producing an antibody which recognizes a peptide compound as claimed in [one of claims 1 to 3, 5, 7 and 8] claim 1, comprising the steps consisting in:

- a) immunizing a mammal with said peptide compound,
- b) isolating a monoclonal antibody which binds to said peptide in an immunological assay.